



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit No. VA0020346
Effective Date: May 14, 2012
Expiration Date: April 30, 2017

AUTHORIZATION TO DISCHARGE UNDER THE
VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM
AND
THE VIRGINIA STATE WATER CONTROL LAW

In compliance with the provisions of the Clean Water Act as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto, the following owner is authorized to discharge in accordance with the information submitted with the permit application, and with this permit cover page, and Parts I and II of this permit, as set forth herein.

Owner: City of Emporia
Facility Name: Emporia Wastewater Treatment Plant
City: Emporia
Facility Location: 500 Tall Oaks Drive, Emporia, VA

The owner is authorized to discharge to the following receiving stream:

Stream: Meherrin River
River Basin: Chowan River and Dismal Swamp
River Subbasin: Chowan
Section: 3
Class: III
Special Standards: None

Deputy Regional Director, Piedmont Regional Office

Date

A. Effluent Limitations and Monitoring Requirements

1. During the period beginning with the permit's effective date and lasting until the permit's expiration date the permittee is authorized to discharge from outfall number 001. This discharge shall be limited and monitored as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITS					MONITORING REQUIREMENTS		
	MONTHLY AVERAGE		WEEKLY AVERAGE		MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD) ^a	NL		NA		NA	NL	Continuous	Totalizing, Indicating and Recording
pH (standard units)	NA		NA		6.0	9.0	1 per Day	Grab
BOD ₅	30 mg/L ^b	170 kg/d ^b	45 mg/L	260 kg/d ^b	NA	NA	5 days per Week	24HC
Total Suspended Solids	30 mg/L ^b	170 kg/d ^b	45 mg/L	260 kg/d ^b	NA	NA	1 per Month	24HC
Dissolved Oxygen (DO)	NA		NA		5.0 mg/L	NA	1 per Day	Grab
<i>E. coli</i> (N/100mL)	126 (Geometric Mean)		NA		NA	NA	5 days per Week (between 10am and 4pm)	Grab
Toxicity, Acute (TU _a) [<i>C. dubia</i>] ^{d, e}	NA		NA		NA	1.02	1 per Quarter ^f	24HC
Toxicity, Acute (TU _a) [<i>P. promelas</i>] ^{d, e}	NA		NA		NA	1.02	1 per Quarter ^f	24HC

"NL" means no limitation is established; monitoring and reporting are required "NA" means not applicable "24HC" means twenty-four hour composite sample

- The design flow of this treatment facility is 1.5 MGD. See Part I.B.1 for additional flow requirements.
 - The limitation is expressed in two significant figures.
 - See Part I.B.11 for quantification levels and reporting requirements.
 - See Part I.C for monitoring requirements for Whole Effluent Toxicity.
 - See Part I.D for Schedule of Compliance.
 - 1 per Quarter means once per each complete calendar quarter following the effective date of the limit (January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 - December 31). Monitoring reports are due the 10th of the month following each monitoring period.
- There shall be no discharge of floating solids or visible foam in other than trace amounts.
 - Effluent samples shall be collected following post-aeration.
 - At least 85% removal for BOD₅ and TSS must be attained for this effluent.

B. Other Requirements or Special Conditions**1. 95% Capacity Reopener**

A written notice and a plan of action for ensuring continued compliance with the terms of this permit shall be submitted to the Department of Environmental Quality (DEQ) Piedmont Regional Office, when the monthly average flow influent to the sewage treatment plant reaches 95 percent of the design capacity authorized in this permit for each month of any three consecutive month period. The written notice shall be submitted within 30 days and the plan of action shall be received at the DEQ Piedmont Regional Office no later than 90 days from the third consecutive month for which the flow reached 95 percent of the design capacity. The plan shall include the necessary steps and a prompt schedule of implementation for controlling any current or reasonably anticipated problem resulting from high influent flows. Failure to submit an adequate plan in a timely manner shall be deemed a violation of this permit.

2. Indirect Dischargers

The permittee shall provide adequate notice to the DEQ Piedmont Regional Office of the following:

- a. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Section 301 or 306 of the Clean Water Act and the State Water Control Law if it were directly discharging those pollutants; and
- b. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of this permit.

Adequate notice shall include information on (i) the quality and quantity of effluent introduced into the treatment works, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the treatment works.

3. CTC, CTO Requirement

The permittee shall, in accordance with the DEQ Sewage Collection and Treatment Regulation (9VAC25-790), obtain a Certificate to Construct (CTC), and a Certificate to Operate (CTO) from the DEQ Office of Wastewater Engineering (for Water Quality Improvement Funded (WQIF) projects) or submitted by the design engineer and owner to the DEQ regional water permit manager (for non WQIF projects) prior to constructing wastewater treatment works and operating the treatment works, respectively. Non-compliance with the CTC or CTO shall be deemed a violation of the permit.

4. Reliability Class

The permitted treatment works shall meet **Reliability Class I**.

5. Licensed Operator Requirement

The permittee shall employ or contract at least one **Class II** licensed wastewater works operator for this facility. The license shall be issued in accordance with Title 54.1 of the Code of Virginia and the regulations of the Board for Waterworks and Wastewater Works Operators. The permittee shall notify the Department in writing whenever he is not complying, or has grounds for anticipating he will not comply with this requirement. The notification shall include a statement of reasons and a prompt schedule for achieving compliance.

6. Sludge Reopener

The DEQ may promptly modify or revoke and reissue this permit if any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the Clean Water Act is more stringent than any requirements for sludge use or disposal in this permit, or controls a pollutant or practice not limited in this permit.

7. Sludge Use and Disposal

The permittee shall conduct all sewage sludge use or disposal activities in accordance with the Sludge Management Plan (SMP) approved with the issuance of this permit. Any proposed changes in the sewage sludge use or disposal practices or procedures followed by the permittee shall be documented and submitted for DEQ approval 90 days prior to the effective date of the changes. Upon approval, the revised SMP becomes an enforceable part of the permit. The permit may be modified or alternatively

revoked and reissued to incorporate limitations or conditions necessitated by substantive changes in sewage sludge use or disposal practices.

8. Groundwater Monitoring

The permittee shall continue sampling and reporting in accordance with the ground water monitoring plan approved on March 23, 1987, and the Corrective Action Plan Phase I and II approved on April 24, 2008 and February 6, 2009, respectively. The purpose of the groundwater monitoring plan is to determine if the system integrity is being maintained and to indicate if activities at the site are resulting in violations of the Board's Ground Water Standards. The purpose of the Corrective Action Plan is to monitor the receptor of the groundwater contamination and to indicate if activities at the site are impacting the receptor. The approved plan is an enforceable part of the permit. Any changes to the plan must be submitted for approval to the Piedmont Regional Office.

If monitoring results indicate that the groundwater has contaminated the receptor, then the permittee shall submit a remediation action plan no later than 60 days after being notified in writing by the DEQ Piedmont Regional Office. The remediation action plan shall outline the steps and a schedule of actions to be taken to ensure the contamination source is eliminated or that the contaminant plume is contained on the permittee's property. Once approved, this plan and schedule shall be incorporated into the permit by reference and become an enforceable part of this permit.

9. Total Maximum Daily Load (TMDL) Reopener

This permit may be modified or, alternatively, revoked and reissued if any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the permit requirements.

10. Operation and Maintenance Manual Requirement

The permittee shall review the existing Operations and Maintenance (O&M) Manual and notify the DEQ Piedmont Regional Office in writing within 90 days of the effective date of this permit whether it is still accurate and complete. If the O&M Manual is no longer accurate and complete, a revised O&M Manual shall be submitted for approval to the DEQ Piedmont Regional Office within 90 days of the effective date of this permit. The permittee will maintain an accurate, approved operation and maintenance manual for the treatment works. This manual shall detail the practices and procedures which will be followed to ensure compliance with the requirements of the permit. The permittee shall operate the treatment works in accordance with the approved O&M Manual. This manual shall include, but not necessarily be limited to, the following items, as appropriate:

- a. Techniques to be employed in the collection, preservation, and analysis of effluent samples;
- b. Procedures for measuring and recording the duration and volume of treated wastewater discharged;
- c. Discussion of Best Management Practices, if applicable;
- d. Procedures for handling, storing, and disposing of all wastes, fluids, and pollutants that will prevent these materials from reaching state waters;
- e. Treatment works design, treatment works operation, routine preventative maintenance of units within the treatment works, critical spare parts inventory and record keeping; and,
- f. A plan for the management and/or disposal of waste solids and residues.

Any changes in the practices and procedures followed by the permittee shall be documented and submitted for DEQ Piedmont Regional staff approval within 90 days of the effective date of the changes. Upon approval of the submitted manual changes, the revised manual becomes an enforceable part of the permit. Noncompliance with the O&M Manual shall be deemed a violation of the permit.

11. Compliance Reporting

a. The **quantification levels** (QL) shall be less than or equal to the following concentrations:

<u>Effluent Characteristic</u>	<u>Quantification Level</u>
BOD ₅	2 mg/L
Total Suspended Solids	1.0 mg/L

The QL is defined as the lowest concentration used to calibrate a measurement system in accordance with the procedures published for the method. It is the responsibility of the permittee to ensure that proper quality assurance/quality control (QA/QC) protocols are followed during the sampling and analytical procedures. QA/QC information shall be documented to confirm that appropriate analytical procedures have been used and the required QLs have been attained. The permittee shall use any method in accordance with Part II A of this permit.

b. Monthly Average

Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in subsection a. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as it is reported. An arithmetic average shall be calculated using all reported data for the month, including the defined zeros. This arithmetic average shall be reported on the Discharge Monitoring Report (DMR) as calculated. If all data are below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above), then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported monthly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the monthly average of the calculated daily quantities.

Weekly Average

Compliance with the weekly average limitations and/or reporting requirements for the parameters listed in subsection a. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each complete calendar week and entirely contained within the reporting month. The maximum value of the weekly averages thus determined shall be reported on the DMR. If all data are below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above), then the weekly average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported weekly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the maximum weekly average of the calculated daily quantities.

c. Single Datum - Any single datum required shall be reported as "<QL" if it is less than the QL used for the analysis (QL must be less than or equal to the QL listed in a. above). Otherwise the numerical value shall be reported.

d. Significant Digits - The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used by the permittee (i.e., 5 always rounding up or to the nearest even number), the permittee shall use the convention consistently, and shall ensure that consulting laboratories employed by the permittee use the same convention.

12. Closure Plan

If the permittee plans an expansion or upgrade to replace the existing treatment works, or if facilities are permanently closed, the permittee shall submit to the DEQ Piedmont Regional Office a closure plan for the existing treatment works. The plan shall address the following information as a minimum: Verification

of elimination of sources and/or alternate treatment scheme; treatment, removal and final disposition of residual wastewater and solids; removal/demolition/disposal of structures, equipment, piping and appurtenances; site grading, and erosion and sediment control; restoration of site vegetation; access control; fill materials; and proposed land use (post-closure) of the site. The plan should contain proposed dates for beginning and completion of the work. The plan must be approved by the DEQ prior to implementation.

13. Materials Handling/Storage

Any and all product, materials, industrial wastes, and/or other wastes resulting from the purchase, sale, mining, extraction, transport, preparation, and/or storage of raw or intermediate materials, final product, by-product or wastes, shall be handled, disposed of, and/or stored in such a manner and consistent with Best Management Practices so as not to permit a discharge of such product, materials, industrial wastes, and/or other wastes to State waters, except as expressly authorized.

14. Pretreatment

- a. No later than 180 days following the effective date of this permit, the permittee shall submit to the DEQ Piedmont Regional Office a survey of all Industrial Users (IUs) discharging to the Publically Owned Treatment Works (POTW). The information shall be submitted on the DEQ Discharger Survey Form, or an equivalent form that includes the quantity and quality of the wastewater. Survey results shall include the identification of significant industrial users of the POTW. In lieu of the survey, the permittee may elect to develop, submit for DEQ Piedmont Regional Office approval, and implement a plan to survey (using internal work processes and systems controls), on pre-established intervals throughout the term of this permit, the industrial community in their jurisdiction; if an alternative plan is developed, the permittee shall submit the plan to the DEQ Piedmont Regional Office for approval no later than 90 days after the effective date of this permit.
- b. Should evaluation by the DEQ of results of the Industrial User survey conducted in accordance with item a. above indicate that the permittee is not required to implement a pretreatment program, the requirements for program development described in item d below may be suspended by the DEQ.
- c. If Categorical Industrial User(s) are identified, or if the permittee or DEQ determines that the industrial user(s) have potential to adversely affect the operation of the POTW or cause violation(s) of federal, state or local standards or requirements, the permittee shall develop and submit to the DEQ Regional Office no later than one year following written notification by DEQ a pretreatment program for approval. The program shall enable the permittee to control by permit the Significant Industrial Users* discharging wastewater to the treatment works.
- d. The approvable pretreatment program submission shall at a minimum contain the following parts:
 - (1) Legal authority,
 - (2) Program procedures,
 - (3) Funding and resources,
 - (4) Local limits evaluation, and local limits if needed,
 - (5) Enforcement response plan, and
 - (6) List of Significant Industrial Users *.
- e. Where the permittee is required to develop a pretreatment program, they shall submit to the DEQ Regional Office an annual report no later than January 31 of each year. The annual report shall include:
 - (1) An updated list of the Significant Industrial Users* (SIUs) noting all of the following:
 - (a) facility address (mailing and physical), phone and contact name, title and email;
 - (b) explanation of SIUs deleted from the previous years list;
 - (c) identify which Industrial Users (IUs) are subject to Categorical Standards and note which Standard (i.e. metal finishing);
 - (d) specify which 40 CFR part(s) is/are applicable;
 - (e) indicate which IUs are subject to local standards that are more stringent than Categorical Pretreatment Standards;
 - (f) indicate which IUs are subject only to local requirements;

- (g) identify which IUs are subject to Categorical Pretreatment Standards that are subject to reduced reporting requirements under 9VAC25-31-840 E.3;
 - (h) identify which IUs are non-significant Categorical Industrial Users;
 - (i) applicable Standard Industrial Classification (SIC) and North American Industry Classification System (NAICS) codes.
- (2) A summary of the compliance status of each Significant Industrial User with pretreatment standards and permit requirements.
 - (3) A summary of the number and types of Significant Industrial User sampling and inspections performed by the Publically Owned Treatment Works (POTW).
 - (4) All information concerning any interference, upset, VPDES permit or Water Quality Standards violations directly attributable to Significant Industrial Users and enforcement actions taken to alleviate said events.
 - (5) A description of all enforcement actions taken against Significant Industrial Users during the reporting period.
 - (6) A summary of any changes to the submitted pretreatment program that have not been previously reported to the DEQ Regional Office.
 - (7) A summary of the permits issued to Significant Industrial Users since the last annual report.
 - (8) POTW and self-monitoring results for Significant Industrial Users determined to be in significant non-compliance during the reporting period.
 - (9) Results of the POTW's influent/effluent/sludge sampling, not previously submitted to DEQ.
 - (10) Copies of newspaper publications of all Significant Industrial Users in significant non-compliance that were published during the reporting period.
 - (11) Signature of an authorized representative.
- f. The DEQ may require the POTW to institute changes to the legal authority regarding Significant Industrial User permit(s):
- (1) If DEQ determines the legal authority does not meet the requirements of the Clean Water Act, Water Control Law or State regulations;
 - (2) If problems such as interferences, pass-through, violations of water quality standards or sludge contamination develop or continue; or
 - (3) If federal, state or local requirements change.

***A significant industrial user is one that:**

- Has an average flow of 25,000 gallons or more per day of process** wastewater;
- Contributes a process wastestream which makes up 5.0-percent or more of the average dry weather hydraulic or organic capacity of the POTW;
- Is subject to the categorical pretreatment standards; or
- Has significant impact, either singularly or in combination with other Significant Dischargers, on the treatment works or the quality of its effluent.

**Excludes sanitary, non-contact cooling water and boiler blowdown.

C. Whole Effluent Toxicity (WET) Testing

1. The Whole Effluent Toxicity limitation of 1.02 TU_a (LC₅₀=98%) in Part I.A.1 is effective no later than 4 years following the effective date of the permit as described in the Schedule of Compliance in Part I.D.

2. Commencing no later than three (3) months following the effective date of the limit, the permittee shall conduct quarterly acute toxicity tests using 24-hour flow-proportioned composite samples of final effluent from Outfall 001 in accordance with Part I.A.1 and Part I.A.1.f. The acute tests to use are:

48 Hour Static Acute test using *Ceriodaphnia dubia*

48-Hour Static Acute test using *Pimephales promelas*

These acute tests shall be performed with a minimum of 5 dilutions, derived geometrically, for calculation of a valid LC₅₀ and corresponding acute Toxic Units (TU_a). Express as TU_a (Acute Toxic Units) by dividing 100/LC₅₀ for DMR reporting. Two copies of the toxicity test results shall be submitted with the DMR. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.

3. The permit may be modified or revoked and reissued to include pollutant specific limits in lieu of a WET limit should it be demonstrated that toxicity is due to specific parameters. The pollutant specific limits must control the toxicity of the effluent.

4. Reporting Schedule

The permittee shall submit the toxicity test results with the DMR for the tests specified no later than the 10th of the month immediately following each calendar quarter in which a toxicity test was performed.

D. Schedule of Compliance for Whole Effluent Toxicity (WET) Limitations

The permittee shall achieve compliance with the acute toxicity limitations specified in Part I.A.1 at Outfall 001 in accordance with the following schedule:

1. Prepare Progress Reports	Annually from the effective date of the permit
2. Achieve Compliance with the Effluent Limitations	No later than 4 years following the effective date of the permit

No later than 14 calendar days following the dates identified in the above schedule of compliance, the permittee shall submit to the DEQ Piedmont Regional Office, either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial action taken, and the probability of meeting the next scheduled requirement.

Upon completion of the compliance schedule, as specified above, acute toxicity (WET) shall be monitored by the permittee and limited as specified by the Toxicity, Acute limitation in Part 1.A.1 of this permit.